

WHAT IS CLAIMED IS:

1. A halftone dot producing apparatus for  
producing a plurality of halftone dot data representative  
5 of a plurality of monochromatic images in which a color  
image is separated, by applying threshold matrixes  
associated with colors to a plurality of multi-tone level  
image data representative of a plurality of monochromatic  
images in which a color image is separated, said halftone  
10 dot producing apparatus comprising:

a phase selection section for selecting a phase  
between at least a first threshold matrix of said threshold  
matrixes and a first monochromatic image represented by a  
multi-tone level image data to which said first threshold  
15 matrix is applied;

a phase control section for controlling a relative  
phase between said first threshold matrix and said first  
monochromatic image to implement the phase selected by said  
phase selection section; and

20 a data producing section for producing a plurality  
of halftone dot data representative of a plurality of  
monochromatic images in which a color image is separated,  
by applying threshold matrixes associated with multi-tone  
level image data representative of monochromatic images  
25 excepting said first monochromatic image, of said plurality  
of multi-tone level image data, to the multi-tone level  
image data representative of said monochromatic images

excepting said first monochromatic image, of said plurality of multi-tone level image data, with a phase determined on a fixing basis, and applying said first threshold matrix to multi-tone level image data representative of said first  
5 monochromatic image, of said plurality of multi-tone level image data, with the phase controlled by said phase control section.

2. A halftone dot producing apparatus according  
10 to claim 1, wherein said phase selection section selects any one of a plurality of phases between a phase in which a Rosette pattern of a clear center appears on a color image represented by said plurality of halftone dot image data, and a phase in which a Rosette pattern of a dot center  
15 appears on the color image represented by said plurality of halftone dot image data.

3. A halftone dot producing apparatus according  
to claim 1, wherein said phase control section controls a  
20 phase of said first threshold matrix for said first monochromatic image.

4. A halftone dot producing apparatus according  
to claim 1, wherein said phase control section controls a  
25 phase of said first monochromatic image to said first threshold matrix.

5. A halftone dot producing apparatus according to claim 1, wherein said halftone dot producing apparatus further comprises:

an image producing section for producing multi-  
5 tone level image data for evaluating a Rosette pattern; and  
a display section for displaying a Rosette pattern on an image represented by an assembly of halftone dot image data obtained by applying the threshold matrixes to the multi-tone level image data produced by said image  
10 producing section.

6. A halftone dot producing apparatus according to claim 5, wherein said image producing section produces multi-tone level image data representative of uniform  
15 images having uniform values throughout whole image areas as multi-tone level image data for evaluating a Rosette pattern.

7. A halftone dot producing apparatus according to claim 6, wherein said halftone dot producing apparatus further comprises:

20 a dot area percentage selection section for selecting a dot area percentage, and

dot area percentage control means for controlling a relative value between thresholds constituting the threshold matrixes and a density level of the uniform image  
25 in such a manner that monochromatic images of the dot area percentage selected by said dot area percentage selection section can be obtained.

8. A halftone dot producing apparatus according to claim 1, wherein said halftone dot producing apparatus further comprises an handler for selecting a phase between  
5 said first threshold matrix for said first monochromatic image, and said phase selection section selects the phase in accordance with an operation of said handler.

9. A halftone dot producing apparatus according to claim 7, wherein said halftone dot producing apparatus  
10 further comprises a handler for controlling a dot area percentage, and said dot area percentage selection section selects the dot area percentage in accordance with an operation of said handler.

10. A halftone dot producing program storage  
15 medium for storing a halftone dot producing program which causes a computer system to operate, when the halftone dot producing program is executed in said computer system, as a  
20 halftone dot producing apparatus for producing a plurality of halftone dot data representative of a plurality of monochromatic images in which a color image is separated, by applying threshold matrixes associated with colors to a  
25 plurality of multi-tone level image data representative of a plurality of monochromatic images in which a color image is separated, wherein said halftone dot producing program storage medium stores a halftone dot producing program

comprising:

a phase selection means for selecting a phase between at least a first threshold matrix of said threshold matrixes and a first monochromatic image represented by a multi-tone level image data to which said first threshold matrix is applied;

a phase control means for controlling a relative phase between said first threshold matrix and said first monochromatic image to implement the phase selected by said phase selection means; and

a data producing means for producing a plurality of halftone dot data representative of a plurality of monochromatic images in which a color image is separated, by applying threshold matrixes associated with multi-tone level image data representative of monochromatic images excepting said first monochromatic image, of said plurality of multi-tone level image data, to the multi-tone level image data representative of said monochromatic images excepting said first monochromatic image, of said plurality of multi-tone level image data, with a phase determined on a fixing basis, and applying said first threshold matrix to multi-tone level image data representative of said first monochromatic image, of said plurality of multi-tone level image data, with the phase controlled by said phase control means.